USEFUL FOR UNIVERSITY EXAMS, GATE, NET AND OTHER CS EXAMS

RESPONSIBILITIES OF DBA

DATABASE MANAGEMENT SYSTEM

PROPER NOTES IN PPT FORM

PART -4



RESPONSIBILITIES OF DBA

- DBA is the database administrator, who controls and manages the database system.
- It can be a single person or a team.
- Every person who wants to access the database has to first take the permission from the DBA.
- DBA is responsible for ensuring data integrity, security of data, optimizing database performance and backing up and restoring the database.
- DBA has full control of the data stored in the database
- It has full control of those application programs which will access the database.
- DBA has all the privileges of the DBMS, so he can grant or revoke the privileges from the other database users.

1. **DECIDING THE STRUCTURE OF SCHEMA** – DBA is going to decide the contents of conceptual and physical schema.

- For conceptual or logical schema he will decide the constraints to applied, relationships, data types ,size, field, tables to be formed etc.
- For physical level schema he will decide the physical storage structure, how data will be stored, encryption and compression techniques, hashing techniques, indexes formed etc.

2. Software Installation and maintenance :

- A DBA often collaborates on the initial installation and configuration of a new Oracle, SQL Server etc database.
- The system administrator sets up hardware and deploys the operating system for the database server, and then the DBA installs the database software and configures it for use.
- As updates and patches are required, the DBA handles this ongoing maintenance.
- If a new server is needed, the DBA handles the transfer of data from the existing system to the new platform.

3. Specialized data handling :

- Today's databases can be massive and may contain unstructured data types such as images, documents, or sound and video files.
- So DBA must be able to handle such type of data in order to maintain the efficiency of the database.

4. Database Backup and Recovery:

- DBAs create backup and recovery plans and procedures and make sure that the necessary steps are followed.
- Backups cost time and money, so the DBA may have to persuade management to take necessary precautions to preserve data.
- System admins or other personnel may actually create the backups, but it is the DBA's responsibility to make sure that everything is done on schedule.
- In the case of a server failure or other form of data loss, the DBA will use existing backups to restore lost information to the system.

5. Security :

- A DBA needs to know potential weaknesses of the database software and the company's overall system and work to minimise risks.
- No system is one hundred per cent immune to attacks, but implementing best practices can minimise risks.
- In the case of a security breach or irregularity, the DBA can consult audit logs to see who has done what to the data.

6. Authentication :

- Setting up employee access is an important aspect of database security.
- DBAs control who has access and what type of access they are allowed.
- For instance, a user may have permission to see only certain pieces of information, or they may be denied the ability to make changes to the system.

7. Performance Monitoring :

- Monitoring databases for performance issues is part of the ongoing system maintenance a DBA performs.
- If some part of the system is slowing down processing, the DBA may need to make configuration changes to the software or add additional hardware capacity.

8. Deciding User Views :

- He will decide the structure of the external schema i.e. the views that can be generated from the compete database.
- When this structure will be decided only after that the application programmer will be able to create the front end.

9. Deciding Constraints :

- DBA will decide the constraints that will be applied on the various fields in a table.
- For eg: Which field will act as primary key or which field will be unique or if there is certain range or limit to input data will be decide by the DBA.
- For eg : Stu_Id can act as primary key

  Stu_Marks should be in the range 0>=Marks<=100

10. Assisting Application Programmers and Database designers :

- We know that these two users help the DBA in constructing a complete database.
- Even though DBA has full control on database yet the designing is done by database designer with DBAs instruction.
- Also, DBA assists the Application programmer in forming the menu driven programs for the naïve users. If the application programmer feels the need of any changes in the design then he needs to take the permission of DBA before acting on that.

THANK YOU

